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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,984	01/11/2005	Koji Yoshida	8861-513US(P31894-01)	5211
570 7590 08/06/2007 AKIN GUMP STRAUSS HAUER & FELD L.L.P. ONE COMMERCE SQUARE 2005 MARKET STREET, SUITE 2200 PHILADELPHIA, PA 19103			EXAMINER LAXTON, GARY L	
			ART UNIT 2838	PAPER NUMBER
			MAIL DATE 08/06/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/520,984

Applicant(s)

YOSHIDA ET AL.

Examiner

Gary L. Laxton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6 and 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/11/05 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/6/07 & 7/25/07.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the first winding of the "drive transformer" is "connected" to the switching sections must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 6 and 9 are objected to because of the following informalities:

Claim 6 recites the limitation "said switching section" (singular) in line 5. There is insufficient antecedent basis for this limitation in the claim. Line 2 recites "at least two switching sections" (plural).

Claim 6 recites the limitation "said switching section" (singular) in line 12. There is insufficient antecedent basis for this limitation in the claim. Line 2 recites "at least two switching sections" (plural).

Claim 6 recites the limitation "said switching section" (singular) in line 14. There is insufficient antecedent basis for this limitation in the claim. Line 2 recites "at least two switching sections" (plural).

Claim 6 recites the limitation "said transformer" in line 17. There is insufficient antecedent basis for this limitation in the claim. Applicant previously recited a transformer in line 4, and a drive transformer in line 13. it is unclear which "transformer" is being recited in line 17.

Claim 9 recites the limitation "said switching section" (singular) in line 2. There is insufficient antecedent basis for this limitation in the claim. Claim 1, line 2 recited "at least two switching sections" (plural).

Claim 9 recites the limitation "the transformer" in line 3. There is insufficient antecedent basis for this limitation in the claim. Applicant previously recited a transformer in claim 1, line 4, and a drive transformer in claim 1, line 13. it is unclear which "transformer" is being recited in line 3.

Claim 9 recites the limitation "said transformer" in line 4. There is insufficient antecedent basis for this limitation in the claim. Applicant previously recited a transformer in claim 1, line 4, and a drive transformer in claim 1, line 13. it is unclear which "transformer" is being recited in line 4.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 6 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 recites the limitation "the first winding of the drive transformer is connected to the switching sections". The examiner fails to observe how the first winding of the drive transformer is connected to the switching sections, unless the applicant is referring to the driver sections (200, 201) which have not been claimed. The examiner assumes the at least two switching "sections" are (switch leg 3, 4 and switch leg 5, 6). Therefore, it is unclear and misdescriptive to claim that the drive transformer (32 or 46) is connected to these switching sections.

Claim 9 recites the limitation "the switching section[s] short circuits the primary winding." Claim 6 recited the at least two switching sections have minuscule stop periods. How

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can the primary be shorted when the switches have stop periods? The examiner assumes the applicant is referring to “dead time” between the switches.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 6 and 9 rejected under 35 U.S.C. 102(b) as being anticipated by Imamura et al.

Imamura et al., figure 3, disclose a switching power supply comprising: at least two switching sections (Q1, Q2) which have minuscule stop periods and repeat ON/OFF operation to convert an input voltage to an AC voltage (e.g. T); a transformer (T) which has a primary winding (L1), to which the AC voltage obtained by the conversion performed by the switching section[s] is applied, and a secondary winding (L2), and stores exciting energy; a synchronous rectifier section (Q3, Q4) for rectifying a voltage induced in the secondary winding of the transformer (T) by switching operation; a smoothing section (Lo, Co) for smoothing the voltage rectified by the synchronous rectifier section to form an output voltage (Vo); a PWM control circuit (IC) which forms a PWM signal for controlling the output voltage to determine an ON/OFF ratio of the switching section[s]; and a drive transformer (L3) for ON/OFF-driving the synchronous rectifier section according to a voltage signal applied to the switching section (through L1), wherein a first winding (L3) of the drive transformer is [coupled] to the switching

sections (through L1), and the switching operation of the synchronous rectifier section is performed via the drive transformer by the energy stored in the transformer (T or L3).

7. Claim 6 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Farrington et al. (US 6,188,592 – supplied by applicant).

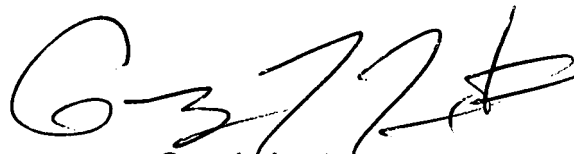
Farrington et al., figure 4a, disclose a switching power supply comprising: at least two switching sections (Q1, Q4 & Q3, Q2) which have minuscule stop periods and repeat ON/OFF operation to convert an input voltage to an AC voltage (e.g. Tx); a transformer (Tx) which has a primary winding (N1), to which the AC voltage obtained by the conversion performed by the switching section[s] is applied, and a secondary winding (Ns), and stores exciting energy; a synchronous rectifier section (SQ1, SQ5, SQ2, SQ3 et al.) for rectifying a voltage induced in the secondary winding of the transformer (Tx) by switching operation; a smoothing section (Lo, Co) for smoothing the voltage rectified by the synchronous rectifier section to form an output voltage (V_{OL}); a PWM control circuit (PWM, Timing) which forms a PWM signal for controlling the output voltage to determine an ON/OFF ratio of the switching section[s]; and a drive transformer (Tsx) for ON/OFF-driving the synchronous rectifier section according to a voltage signal applied to the switching section (PWM, Timing), wherein a first winding (e.g. Ctx) of the drive transformer is [coupled] to the switching sections (through Ctx and timing circuit), and the switching operation of the synchronous rectifier section is performed via the drive transformer by the energy stored in the transformer (T or L3).

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary L. Laxton whose telephone number is (571) 272-2079. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on (571) 272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'G-Laxton', with a stylized flourish at the end.

Gary L. Laxton
Primary Examiner
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8/2/2007